

What is claimed is:

1. A method, comprising steps of:

(a) printing with a printing unit having adjacent, rotating ink rollers, said ink rollers having a central print area and terminal non-print areas, by applying ink to

5 a first ink roller, the ink being transferred to the print areas and non-print areas of successive adjacent ink rollers and finally printed in an image on a paper substrate;

(b) delivering a tack-reducing solvent at a pre-determined rate to the non-print areas of a second ink roller, wherein the tack-reducing solvent is transferred from

10 the non-print areas of the second ink roller to the non-print areas of successive adjacent ink rollers.

2. A method according to claim 1, wherein step (b) is carried out by pumping the tack-reducing solvent from a reservoir.

15

3. A method according to claim 1, wherein the pre-determined rate of step (b) is adjusted according to the printing rate.

20 4. A method according to claim 2, wherein a sensor signals when to add more tack-reducing solvent to the reservoir.

5. A method according to claim 1, comprising the further steps of:

(c) replacing the paper substrate of step (a) with a second paper substrate having a narrower width;

(d) increasing the rate of delivery of the tack-reducing solvent.

5 6. A method according to claim 2, wherein a solvent line carries the tack-reducing solvent from the reservoir and the tack-reducing solvent passes through an aperture in the solvent line onto the non-print areas of the second ink roller.

7. A method according to claim 7, comprising further steps of:

10 (c) replacing the paper substrate of step (a) with a second paper substrate having a narrower width;

(d) closing the aperture in the solvent line and opening a second aperture in the solvent line for solvent to pass onto the non-print areas closer to the edges of the second paper substrate.

15 8. A method according to claim 1, wherein the tack-reducing solvent comprises a member selected from the group consisting of water, glycols, glycol ethers, aliphatic hydrocarbons, petroleum distillate fractions, normal and isoparaffinic solvents, and combinations thereof.

20 9. A method according to claim 1, wherein the printing is carried out by a method selected from the group consisting of lithographic printing, flexographic printing, letterpress printing, rotogravure printing, and sheetfed printing.

- PROOF COPY
10. A method according to claim 1, wherein the paper substrate is a super calendered paper.
- 5      11. A method of printing super calendered paper in a lithographic printing process, comprising a step of delivering to non-print areas of the ink train a solvent that is a tack-reducing solvent for the printing ink, wherein the solvent is delivered at a pre-determined rate.
- 10     12. A method according to claim 11, wherein the rate of solvent delivery is dropwise.
- 15     13. A method according to claim 11, wherein from one to five drops of solvent are delivered each minute.
- 15     14. A printing apparatus, comprising:  
at least one printing unit having adjacent ink rollers, said ink rollers having terminal non-print areas, and  
a solvent delivery system for delivering a tack-reducing solvent to the non-print areas of at least one ink roller.
- 20     15. A printing apparatus according to claim 14, wherein said solvent delivery system comprises a solvent line for moving the solvent to the non-print

areas of the at least one ink roller and apertures in the solvent line to deliver the solvent to said non-print areas.

16. A printing apparatus according to claim 14, wherein the solvent delivery system further comprises a reservoir for containing the solvent from the solvent line receives the solvent.

17. A printing apparatus according to claim 16, wherein the solvent delivery system comprises a pump for pumping the solvent from the reservoir.

10

18. A printing apparatus according to claim 17, wherein the solvent delivery system further comprises a controller for adjusting the rate of delivery of solvent to the non-print area.

15

19. A printing apparatus according to claim 15, wherein the solvent line has at least two spaced apertures that can be opened and closed each end of said at least one ink roller.